



ROLL NO.	
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PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING

Max Marks: 80

Max Time: 120 Mins

Weightage: 40 %

ENDTERM FINAL EXAMINATION

I Semester AY 2017-18

Course: **CSE 221 COMPUTER GRAPHICS**

23 DECEM 2017

Instructions:

- i. Write legibly
 - ii. Scientific and non programmable calculators are permitted
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Part A

(5Q x 2M = 10 Marks)

1. Mention two differences between raster scan system & random scan systems.
2. What is clipping? Explain line clipping only with diagram.
3. Write two differences between RGB & CMYK color models.
4. What are computer fractals?
5. Mention any two differences between interpolation & approximation splines?

Part B

(5Q x 5 M = 25 Marks)

6. Illustrate Bezier Curves and its properties.
7. Write scan line polygon filling algorithm.
8. What is A-Buffer method of visible surface detection?
9. Write the transformation matrices for orthographic and oblique projection.
10. Illustrate how area subdivision method can be used for visible surface detection?

Part C

(3Q x 15 M = 45 Marks)

11. Design the Homogeneous Transformation Matrices for
 - a) Translation
 - b) Rotation with respect to x axis, y axis, z axis respectively
 - c) Scaling
 - d) Reflection with respect to xy, yz and zx planes respectively.
 - e) Shear
12. Design the Homogeneous Transformation Matrices for
 - a) Translation
 - b) Rotation
 - c) Scaling
 - d) Reflection with respect to $y=x$, $y=-x$
 - e) x-shear, y-shear
13. Derive Midpoint Circle Algorithm. Implement it for $r=10$.



PRESIDENCY UNIVERSITY, BENGALURU
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Max Marks: 40

Max Time: 60 Mins

Weightage: 20 %

TEST 2

I Semester 2017-2018

Course: **CSE 221 Computer Graphics**
(11:00am -12:00pm)

23 OCT 2017

Instructions:

- i. Write legibly
- ii. Scientific and non programmable calculators are permitted

Part A

(3Q x 2M= 06 Marks)

1. Write polygon tables for the following figure 1.1:

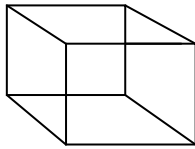


Figure1.1

2. Define terms, Perspective Foreshortening, Vanishing Point.
3. Classify all the three dimensional geometric projections.

Part B

(4 Q x 4 M= 16 Marks)

4. Design the transformation matrices for orthographic and oblique projections.
5. Differentiate Interpolation and Approximation splines.
6. Differentiate Explicit, Implicit and Parametric spline representations.
7. What are the parametric continuity conditions for splines?

Part C

(1 Q x 18 M= 18 Marks)

8. Design the Homogeneous Transformation Matrices for
- a) Translation
 - b) Rotation with respect to x axis, y axis, z axis respectively
 - c) Scaling
 - d) Reflection with respect to xy, yz and zx planes respectively.
 - e) Shear